



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/543,026

07/21/2005

Emmanuel Legrand

047578/294907

9198

826

7590

05/02/2008

ALSTON & BIRD LLP

BANK OF AMERICA PLAZA

101 SOUTH TRYON STREET, SUITE 4000

CHARLOTTE, NC 28280-4000

EXAMINER

ALIE, GHASSEM

ART UNIT

PAPER NUMBER

3724

MAIL DATE

DELIVERY MODE

05/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/543,026	Applicant(s) LEGRAND, EMMANUEL	
	Examiner GHASSEM ALIE	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/03/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 15-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/11/08</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Newly submitted claims 15-23 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 1-13 which have originally presented and examined and newly submitted claims 15-23 are related as subcombinations disclosed as usable together in a single combination.

I. Claim 6, drawn to a cutting head that includes, e.g., a string having a polygonal cross-section, and a ridge situated at the level of a training edge.

II. Claims 15-23, drawn to a cutting head including a curved bearing zone having a radius of curvature greater than half the radius of the periphery of the cutting head, as set forth in claim 15; and a passageway which is rectilinear and offset by a distance from a central axis, as set forth in claim 18.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, e.g., subcombination I has a separate utility such as it could be used without the above-mentioned features set forth in invention II. Conversely, subcombination II has a separate utility such as it could be used without the above-mentioned features set forth in invention I. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the

Art Unit: 3724

allowable subcombination will be examined for patentability in accordance with 37 CFR

1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Since applicant has received an action on the merits for the originally

presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 15-23 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the motor set forth in claim 13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

Art Unit: 3724

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The amendment filed on 03/11/08 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Amended Fig. 2 now showing a motor on the central orifice 1100. The motor and its location is not originally disclosed. It is not clear where the motor is connected to and how it is connected to the cutting head or orifice 1100.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

6. Claim 13-14 is objected to because of the following informalities: in claim 13, line 2; "Claim 1" should be --claim 1--. In claim 14, line 3; "curved bearing zone" should be --curved bearing zone.--.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

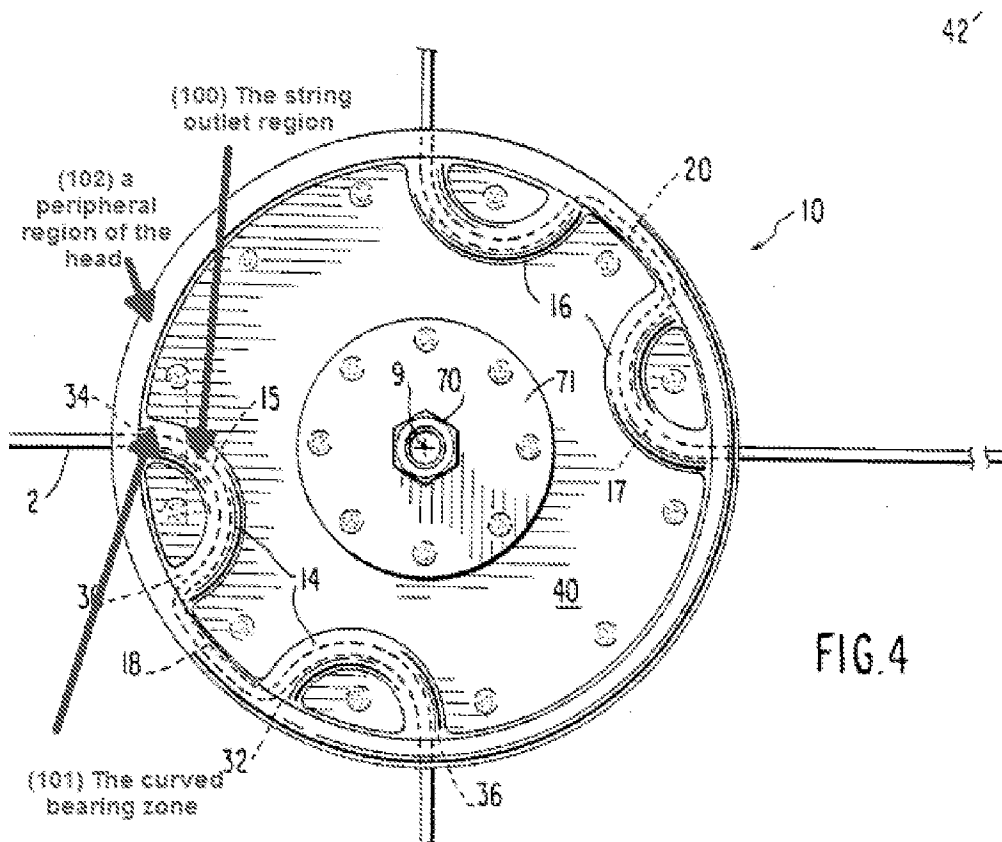
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5 and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Rouse (4,756,146). Regarding claim 1, Rouse teaches a cutting head 10 including a passageway 14 for a cutting string 2 and at least one curved bearing zone 101 extending

Art Unit: 3724

between a string outlet region 100 of the passageway and a peripheral region 102 of the head.

It should be noted that the string outlet region could be defined by the mid-section of the passage, and the curved bearing region could be considered as the region between the string outlet region to the periphery region of the head as show in Fig. 1 below. Rouse also teaches that a surface of the curved bearing zone presents a recessed profile 46 which is substantially complementary to a part of cross-section of the cutting string 2, in order to guide the cutting string in the recess when the string flexes in a direction opposite to the rotation of the head to rest against the curved bearing zone.



Regarding claim 2, Rouse teaches everything noted above including that the recess 46 formed in the curved bearing zone joins the string passageway in a substantially continuously manner.

Regarding claim 3, Rouse teaches everything noted above including that the curved bearing zone is situated on a widening of the string passageway in the vicinity of a string outlet. It should be noted that the curved bearing zone is located or situated also in the widening region of the passageway. See Fig. 4 above.

Regarding claim 4, Rouse teaches everything noted above including that the profile of the surface of the curved bearing zone is constant.

Regarding claim 5, Rouse teaches everything noted above including that the string passageway 14 is disposed so as to maintain the cutting string in a given orientation.

Regarding claim 9, Rouse teaches everything noted above including that the curved bearing zone joins the peripheral region of the head substantially tangentially.

Regarding claim 10, Rouse teaches everything noted above including a secondary curved bearing zone is provided is provided on the side of the string passageway opposite the curved bearing zone with recessed profile, and the secondary curved bearing zone also presents a recessed profile. It should be noted that the secondary curved bearing zone is located opposite the first curved bearing zone and has a recessed profile.

Regarding claim 11, Rouse teaches everything noted above including that the cutting string has a cross-section which is symmetrical in relation to an axial mid-plane, and the recessed profiles of the two curved bearing zones are identical.

Regarding claims 12 and 14, Rouse teaches everything noted above including that the recess 46 of the curved bearing zone is formed in the region where two parts assembled to form together the string passageway and the curved bearing zone.

Regarding claim 13, Rouse teaches everything noted above including a motor which drives the cutting head. It should be noted that the cutting head inherently is driven by a motor of a cutting device.

It should be noted that Dees, Jr. et al. (5,836,227) which was cited by the Examiner in the pervious Office action also reads on all claims above.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rouse in view of Jones et al. (5,048,278), hereinafter Jones. Regarding claim 6-7, Rouse teaches everything noted above except that the string has polygonal cross-section with a ridge situated at the level of its trailing edge. However, the use of a string having a polygonal cross-section disposed in a recess complementary to the shape of the string is well known in the art such as taught by Jones. Jones teaches a string 10 has a polygonal cross-section with a ridge situated at the level of its trailing edge. Jones also teaches that the complementary recess has a V shape. It would have been obvious to a person of ordinary skill in the art to

provide Rouse' cutting head with the string and the recess, as taught by Jones, in order accommodate a polygonal shaped string in the cutting head.

Response to Amendment

11. Applicant's arguments filed on 03/03/08 have been fully considered but they are not persuasive.

Applicant's argument that Rouse does not teach any bearing zones or any other features extending between the string outlet regions and the periphery of the head is not persuasive. As stated above, Rouse teaches at least one curved bearing zone 101 extending between a string outlet region 100 of the passageway and a peripheral region 102 of the head. It should be noted that the string outlet region could be defined by the mid-section of the passage, and the curved bearing region could be considered as the region between the string outlet region to the periphery region of the head as show in Fig. 1 above.

It should be noted that Dees, Jr. et al. (5,836,227) which was cited by the Examiner in the pervious Office action also reads on all claims above.

Applicant's arguments with respect to claims 15-22 are moot, since these newly added which have not been considered in the pervious Office action are withdrawn from consideration.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (571) 272-4501. The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, SEE <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/543,026
Art Unit: 3724

Page 11

GA

April 30, 2008

/Ghassem Alic/

Primary Examiner, Art Unit 3724